

What is claimed is:

1. A method of detecting an optical disc, comprising:  
detecting a size of the optical disc inserted in an optical disc drive by sensing a weight of the optical disc and driving the optical disc drive;  
determining the size of the optical disc by detecting an amount of data recorded on the optical disc from a lead-in area of the optical disc;  
if the amount of data recorded on the optical disc, the size of which has been determined, is below a reference value, moving a pickup to a periphery area and measuring a focus error; and  
if the measured focus error is above a constant value, detecting the optical disc as a certain optical disc type and limiting the operational speed level of the optical disc drive.
2. The method of claim 1, wherein the optical disc detected according to the weight thereof is either a standard disc having a diameter of 12 cm or a fashion disc having a diameter of 8 cm.
3. The method of claim 1, wherein the optical disc determined according to the amount of data recorded on the optical disc is any one disc among a standard disc having a diameter of 12 cm on which data is fully recorded, a standard disc having a diameter of 12 cm on which data is partially recorded, and a fashion disc having a diameter of 8 cm.
4. The method of claim 1, wherein the certain optical disc type is a fashion disc having a diameter of 8 cm.
5. The method of claim 1, wherein if the measured focus error is below the constant value, the optical disc is detected as a standard disc having a diameter of 12 cm on which data is partially recorded.
6. An apparatus detecting an optical disc, comprising:  
a weight detection unit detecting a weight of the optical disc inserted in a disc drive;

a comparison unit comparing an amount of data recorded on the optical disc from the lead-in area of the optical disc with a reference value; and

a disc detection unit detecting a size of an optical disc according to the weight detected via the weight detection unit, determining the size of the optical disc by detecting the amount of data recorded on the optical disc from a lead-in area of the optical disc when the disc drive is driven, if determined as a result of the comparison via the comparison unit that the amount of data recorded on the optical disc is below the reference value, moving a pickup to a periphery area and measuring a focus error, and if the measured focus error is above a constant value, detecting the optical disc as a certain optical disc type.

7. The apparatus of claim 6, wherein the detection unit includes:

a first disc detection unit that detects the size of the disc according to the weight detected via the weight detection unit;

a second disc detection unit that determines the size of the optical disc by detecting the amount of data recorded on the optical disc from the lead-in area of the optical disc when the disc drive is driven; and

a third disc detection unit that moves the pickup to the periphery area and measures the focus error, if it is determined as the result of the comparison via the comparison unit that the amount of data recorded on the optical disc is below the reference value, and detects the optical disc as the certain optical disc type, if the measured focus error is above the constant value.

8. The apparatus of claim 7, wherein the first disc detection unit detects the optical disc as either a standard disc having a diameter of 12 cm or a fashion disc having a diameter of 8 cm according to the weight of the optical disc.

9. The apparatus of claim 7, wherein the second disc detection unit detects the optical disc as any one disc among a standard disc having a diameter of 12 cm on which data is fully recorded, a standard disc having a diameter of 12 cm on which data is partially recorded, and a fashion disc having a diameter of 8 cm according to the amount of data recorded on the optical disc.

10. The apparatus of claim 7, wherein the third disc detection unit detects the optical disc as a certain optical disc predetermined as a fashion disc having a diameter of 8 cm if the measured focus error is below the constant value and as a standard disc having a diameter of 12 cm on which data is partially recorded if the measured focus error is above the constant value.

11. An apparatus that identifies a type of an optical disc, comprising:  
a weight measure unit that measures a weight of the optical disc;  
a comparison unit comparing a data recording capacity of the optical disc with a reference value; and  
a disc identification unit that determines a size of the optical disc according to the measured weight and the data recording capacity of the optical disc.

12. The apparatus of claim 11, further comprising:  
a read unit that reads a lead-in area of the optical disc to determine the data recording capacity of the optical disc.

13. The apparatus of claim 11, further comprising:  
a pickup that moves to a periphery area of the optical disc to measure a focus error;  
a controller that determines that the optical disc is a first type if the measured focus error is above a constant value.

14. A disc drive that identifies a type of an optical disc, comprising:  
a controller that identifies the type of the optical disc by a weight of the optical disc and a data recording capacity of the optical disc.

15. The disc drive of claim 14, further comprising:  
a pickup that reads signals from the optical disc to produce an electrical signal;  
a wave filtering rectifier that adds or subtracts the electrical signal to output a focus error signal; and

wherein the controller determines that the optical disc is a first type if a measured focus error from the focus error signal is above a constant value.

16. The disc drive of claim 15, further comprising:  
a sled motor that moves the pickup;  
a spindle motor that rotates the optical disc;  
a driver that drives the sled motor and the spindle motor; and  
a servo that controls the operations of the pickup and the driver.

17. A method of determining a diameter of an optical disc in an optical disc drive, comprising:  
operating the optical disc drive;  
sensing a weight of the optical disc during operation of the disc drive; and  
determining the diameter of the optical disc from the weight of the optical disc.

18. A method of determining a diameter of an optical disc in an optical disc drive, comprising:  
operating the optical disc drive;  
reading a data recording capacity of the optical disc from a lead-in area of the optical disc;  
determining the diameter of the optical disc from the data recording capacity.

19. The method of claim 18, further comprising:  
comparing the data recording capacity to a reference value;  
moving a pickup to a periphery area and measuring a focus error if the data recording capacity is below the reference value; and  
wherein the determining the diameter comprises:  
identifying the optical disc as a non-standard size and limiting the operational speed level of the optical disc drive if the measured focus error is above a constant value; or  
identifying the optical disc as a standard size and running the optical disc drive at a normal speed level if the measured focus error is below the constant value.

20. A method of identifying a type of an optical disc inserted into a disc drive, comprising:
- identifying the optical disc as a fashion disc having a diameter of 8 cm or as a standard disc having a diameter of 12 cm based on a weight of the optical disc; and
  - identifying the optical disc as a CD or as a DVD based on a thickness of the optical disc.
21. The method of claim 20, further comprising:
- loading the optical disc on a tray; and
  - closing the tray to operate the disc drive.
22. The method of claim 21, further comprising:
- turning on a focus servo;
  - reading a table of contents from a lead-in area of the optical disc;
  - detecting a data recording capacity of the optical disc from the table of contents;
  - determining whether the data recording capacity of the optical disc is consistent with a capacity of the 8 cm fashion disc.
23. The method of claim 21, further comprising:
- adjusting parameters of the disc drive based on the type of the optical disc.
24. A method of identifying a type of an optical disc in a disc drive, comprising:
- moving a focus lens through an operating range;
  - measuring a focus error while moving the focus lens;
  - comparing a peak-to-peak value of the measured focus error to a reference value; and
  - determining that the optical disc is a 12 cm standard disc if the peak-to-peak value is greater than the reference value or that the optical disc is an 8 cm fashion disc if the peak-to-peak value is less than the reference value.
25. The method of claim 24, further comprising:
- operating the disc drive according to the determined type of the optical disc.

26. The method of claim 24, further comprising:  
moving a pickup to a periphery area of the optical disc to measure the focus error.
27. The method of claim 24, wherein the moving the focus lens through the  
operating range comprises moving the focus lens up and down.
28. The method of claim 24, further comprising:  
adjusting operating parameters of the disc drive consistent with the 8 cm fashion disc.
29. The method of claim 28, further comprising:  
storing operating parameters to drive the 8 cm fashion disc;  
wherein the adjusting the operating parameters comprises adjusting the operating  
parameters based on the stored operating parameters.